Séminaire d'algèbre, topologie et géométrie
Jeudi 30 janvier à 14h
Salle I

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Fano varieties with large second Betti number

The subject of the talk are Fano manifolds, that is : smooth complex projective varieties whose anticanonical divisor is ample.

We will first review some classical results on the geometry of a Fano manifold X. Then we will explain a result which relates the second Betti number of X to the second Betti number of any prime divisor D in X. More precisely, if $r\colon H^2(X,\mathbb{R}) \to H^2(D,\mathbb{R})$ is the natural restriction map, then the kernel of r has dimension at most 8. Moreover, as soon as there is a prime divisor D with $\dim \ker r \geq 2$, this yields some geometrical properties of X.